

Sub. A'

1/ A system for cooling an injector of a combustion chamber of a turbomachine, said injector comprising means for delivering a primary fuel comprising a first feed tube connected to an annular injection piece having first injection orifices for discharging the primary fuel into said combustion chamber; and means for delivering a secondary fuel comprising a second feed tube surrounding said first feed tube and connected to a cylindrical endpiece surrounding said annular injection piece and having second injection orifices for discharging the secondary fuel into said combustion chamber, said endpiece further comprising an annular channel of diameter greater than that of said second feed tube and extending over its entire length beyond said first injection orifices; the system comprising means for delivering a cooling fluid comprising a third tube surrounding said second tube and having a tubular separation element connected thereto which is introduced in said annular channel of said cylindrical endpiece so as to form two annular spaces in which the cooling fluid can flow over 360° all the way to the end of the injector.

2/ A cooling system according to claim 1, wherein said first and second feed tubes and said third tube are coaxial.

3/ A cooling system according to claim 1, wherein said annular injection piece is connected to said first feed tube via a cylindrical connection piece.

4/ A fuel injector for a turbomachine combustion chamber, the injector including a cooling system according to claim 1.



8/ A main injector for a two-headed combustion chamber of a turbomachine including a cooling system according to claim 5.

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